Transcript of Marine Corps Video Demonstration of Long Range Fifty Caliber Sniper Weapons

Background:

On May 3, 1999, members of the House Committee on Government Reform held a Special Investigations Briefing on long-range, fifty caliber sniper weapons. At that briefing, the U.S. Marine Corps Scout Sniper Instructor School provided a video demonstration of fifty caliber sniper weapons. The demonstration included an explanation of the tremendous range of these weapons, as well as a firing range display of their physical capabilities. Following is a verbatim transcript of the Marine Corps demonstration. The video version is available at http://www.house.gov/reform/min/inves_guns/guns_fifty.htm.

Transcript:

[ATTRIBUTION SLIDE:]

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UNITED STATES MARINE CORPS
Scout Sniper Instructor School
Weapons Training Battalion
MCCDC
Quantico, Virginia 22134-5040
Attention: OIC Snipers

[TITLE SLIDE:]

M82A1A
SASR
TERMINAL
BALLISTICS
DEMONSTRATION

Good morning, I'm Captain Ukeiley, the Officer In Charge of the Marine Corps Scout Sniper Instructor School. Welcome to Range Four, Weapons Training Battalion, home of the Marine Corps Scout Snipers.

What we're going to demonstrate here for you today is the capabilities and terminal ballistics effects of the M82A1A Special Application Scoped Rifle used by the Scout Sniper Platoons of the infantry battalion within the Marine Corps. The M82A1A Special Application Scoped Rifle itself: this weapon is 28.5 pounds empty, it is 57 inches in length, with a 29-inch barrel, with a 1 in 15 right hand twist. Moving from front to rear, there's a muzzle brake on the end that eats approximately 40 percent of the recoil. The barrel itself slides back and forth, eating further recoil. The upper receiver. The bi-pod legs.

There is a ten-power fixed Unertl scope, allowing us to engage maximum effective range on the targets to 2,000 yards. This weapon will fire a standard .50 cal bullet out to 7,450 yards. If you can picture 75 football fields laid end-to-end, that's how far the bullet will travel. A mil-spec rail, a ten round magazine, a stock and pistol grip, similar to the M16. It also has front and rear iron sights and a thick recoil pad.

The most commonly available ammunition for the .50 cal SASR is standard .50 cal Browning machine gun ammunition. This one fires a 660-grain bullet at 2,800 feet per second. Another type of round is the M8 Armor Piercing/Incendiary [API] round. This round provides limited armor piercing and limited incendiary effect against lightly armored targets. A third type of round, which cannot be fired from this .50 cal weapon, but however can be fired from others, is the SLAP round. SLAP, standing for Sabot Light Armor Penetrator. This is a Tungsten Carbide dart. What happens upon firing of the round, the plastic shoe is discarded out the side, and this small dart travels at over 4,000 feet per second to penetrate armored targets.

The primary round for [the] M82A1A Special Application Scoped Rifle is the Mark 211 Mod-0 Raufoss ammunition, Raufoss being the town in Norway where the factory is located where this round is created. This round provides armor piercing, incendiary, and high explosive effect as noted by its green and silver tip. The way this round works is as follows. When the round is fired, it creates a spin. In the front of this round is an incendiary mixture. That mixture will form a cone. Behind that is Composition A4, which gives high explosive effect through Zirconium particles for sustained burning. There is also in the back of the round a 7.62 millimeter Tungsten Carbide penetrator. Upon hitting an armored target, an incendiary mix will form adiabatic pressure. That pressure needing to be released will propel the 7.62 millimeter Tungsten Carbide penetrator forward at over 4,000 feet per second, providing armor piercing effect on a lightly armored target. Following in the wake of that Tungsten Carbide penetrator through that hole will follow the incendiary mixture, the Composition A4, which will provide small high explosive effect, and the Zirconium for incendiary effect inside the target.

An example of what this ammo can do. This is a one inch thick piece of rolled homogeneous armor found on armored vehicles throughout the world. We fired two rounds through it: the M8 Armor Piercing/Incendiary [API] round on the right; and the .50 cal SLAP round on the left. As you can see, the Armor Piercing/Incendiary [API] round penetrated, but did not continue through. The SLAP round, moving at over 4,000 feet per second, came in and exited completely through this block of armor.

[Sniper on ground prepares to demonstrate.]

Target two is a manhole cover, 21½ inches diameter by 3½ inches thick. Target two, observer up. Ready. Fire. [Sniper shoots.] Two o'clock.

Target two, observers up. Ready. Fire. [Sniper shoots.] Center mass.

Target four is the steel track from a Ford tractor. Two inches thick, 16 inches by 12 inches dimension. Target four. Ready. Fire. [Sniper shoots.] Target down.

Target five is bullet resistant glass, ¾ inch thick, 15 inches by 40 inches dimensions.

Target five, observers up. Ready. Fire. [Sniper shoots.] Center mass, slightly left.

Target six is cinderblocks. Cinderblocks are eight inches thick with ¾ inch walls, 16 inches long. Target six, observers up. Ready. Fire. [Sniper shoots.] Cease-fire.

Target seven. Fire ten rounds at the steel target. Target number seven, observer is up. Ready. Fire. [Sniper shoots ten rounds.]

[Captain Ukeiley shows targets.]

OK, here are the entrance holes on the 3½ inch thick manhole cover, at a 30 degree obliquity, and the exit hole. Note the secondary fragmentation pattern and the effect it had on the wood behind the target itself.

The entrance hole from the .50 cal and the two inch thick steel track — note also the crack — better witnessed from this view. You can notice the .50 cal exit hole, the limited secondary fragmentation and the cracking of that plate.

The incendiary effects of the .50 cal Raufoss round demonstrated here, Zirconium particles and the remnants of that round continuing to burn a full 30 seconds after bullet strike. And down range 30 yards past the impact.

[Range personnel use fire extinguisher to put out fire down range.]

The cinderblocks. The Raufoss round did penetrate through four of the blocks, and then through tumbling and yawing action exited through the top.

[Sniper fires ten rounds.]

The entrance holes within that 600-pound safe. The petal-looking-like objects are actually the jacket being stripped away from the Raufoss round. And the exit holes. Demonstrated here are six of the seven exit holes. Three of the Tungsten Carbide penetrators did not penetrate out the back half of that safe. On the top part of the screen you can see one Tungsten Carbide penetrator that impacted the back end of the safe but did not penetrate. At the lowest part of the screen you can see one Tungsten Carbine penetrator that actually came through the back end of the safe, parallel vice perpendicular to the target.

Pending any questions you might have, this concludes the M82A1A Special Applications Scoped Rifle Terminal Ballistics and Capabilities Demonstration.

[Shots fired.]

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